

## CLAIMS

1) A method for separating constituents of a feed in liquid solution of at least two constituents (A, B) of different partition coefficients such that they are carried along at unequal velocities respectively by a light solvent and by a heavier solvent, in a device comprising at least one liquid-liquid centrifugal chromatographic column (col) consisting of the interconnection in series of at least one set of separation cells (CE), characterized in that it comprises:

- injecting the feed at an intermediate point of said set of cells, and

- carrying out alternating cycles of two stages, with a first stage during a first time interval ( $t_1$ ) wherein a lighter solvent is injected through a first end of the device and a first constituent is collected at a second end of the device, and a second stage during a second time interval ( $t_2$ ) wherein a heavier solvent is injected through the second end of the device and a second constituent is collected at the first end.

2) A method as claimed in claim 1, wherein the respective durations ( $t_1$ ,  $t_2$ ) of the first and second phase and/or the lighter and heavier solvent injection rates are adjusted according to the constituents of the mixture, so as to obtain optimum separation.

3) A method as claimed in claim 1 or 2, wherein several cascade separations are performed to isolate from one another the various constituents of a mixture comprising more than two constituents.

20 4) A method as claimed in claim 3, wherein two optical isomers are separated by injecting into a first device a feed comprising the optical isomers and a chiral selector so

as to obtain a first isomer on the one hand and a mixture of second isomer and of chiral selector on the other hand, and by injecting said mixture from the first device into a second device suited to separate the second isomer and the chiral selector.

5 5) A method as claimed in any one of the previous claims, wherein the feed is  
injected continuously or discontinuously.

6) A device for continuous separation of the constituents of a feed in liquid solution  
of at least two constituents (A, B) having different partition coefficients such that they  
are carried along at unequal velocities respectively by a lighter solvent and a heavier  
solvent, comprising at least one liquid-liquid centrifugal chromatographic column (col)  
10 consisting of the interconnection in series of at least one chain of separation cells (CE),  
characterized in that each column is associated with a first pump (P1) for injecting the  
feed at an intermediate point of the chain of cells, a first valve (V1) connecting a first  
end of the column to a first vessel for collecting a first constituent (FA) or to a second  
pump (P2) for injecting a first solvent (L), a second valve (V2) connecting a second end  
15 of the column to a second vessel for collecting a second constituent (FB) or to a third  
pump (P3) for injecting a second solvent (1), alternating valves (V1, V2) switching  
means so as to switch alternately from a first stage with injection of the first solvent (L)  
and reception of the separated second constituent (FB) to a second stage with injection  
of the second solvent (1) and reception of the separated first constituent (FA), and  
20 means for controlling the pump flow rate.

7) A device as claimed in claim 6, comprising at least two cascade separation  
columns for separating constituents of a mixture comprising at least three different  
constituents.